

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Previously Presented) Carbon nanotubes, which are directly grown over a carbon substrate, whose internal and external walls are uniformly doped with nano-sized metallic catalyst particles, wherein the carbon nanotubes include a main axis region with a terminal portion and a first portion, wherein the terminal portion is located on the main axis region opposite from the carbon substrate and the first portion is located between the terminal portion and the carbon substrate, and wherein two or more branches branch out symmetrically around the main axis from the first portions to form branched carbon nanotubes.

2. (Original) The carbon nanotubes of claim 1, wherein the metallic catalyst particles are derived from at least one selected from the group consisting of Pt, Ru, Fe, Co, and alloys or mixtures of the forgoing elements.

3. (Original) The carbon nanotubes of claim 1, wherein the carbon substrate is carbon cloth or carbon paper.

4. (Previously Presented) The carbon nanotubes of claim 1, wherein the catalyst is selected to act as both a catalyst for carbon nanotube growth and as a fuel cell catalyst.

5. - 12. (Cancelled)

13. (Previously Presented) A fuel cell using the carbon nanotubes grown over the carbon substrate according to claim 1 for an electrode.

14. (Previously Presented) A fuel cell using the carbon nanotubes grown over the carbon substrate according to claim 2 for an electrode.

15. (Previously Presented) A fuel cell using the carbon nanotubes grown over the carbon substrate according to claim 3 for an electrode.

16. (Previously Presented) A fuel cell using the carbon nanotubes grown over the carbon substrate according to claim 4 for an electrode.

17. - 30. (Cancelled)

31. (Previously Presented) The carbon nanotubes of claim 1, wherein the internal and external walls of the carbon nanotubes are uniformly doped with nano-sized metallic catalyst particles to a degree of 0.3-5 mg/cm².

32. (Previously Presented) The carbon nanotubes of claim 1, wherein the one or more branches comprise at least three branches branching out from the first portion of the carbon nanotubes.

33. - 45. (Cancelled)